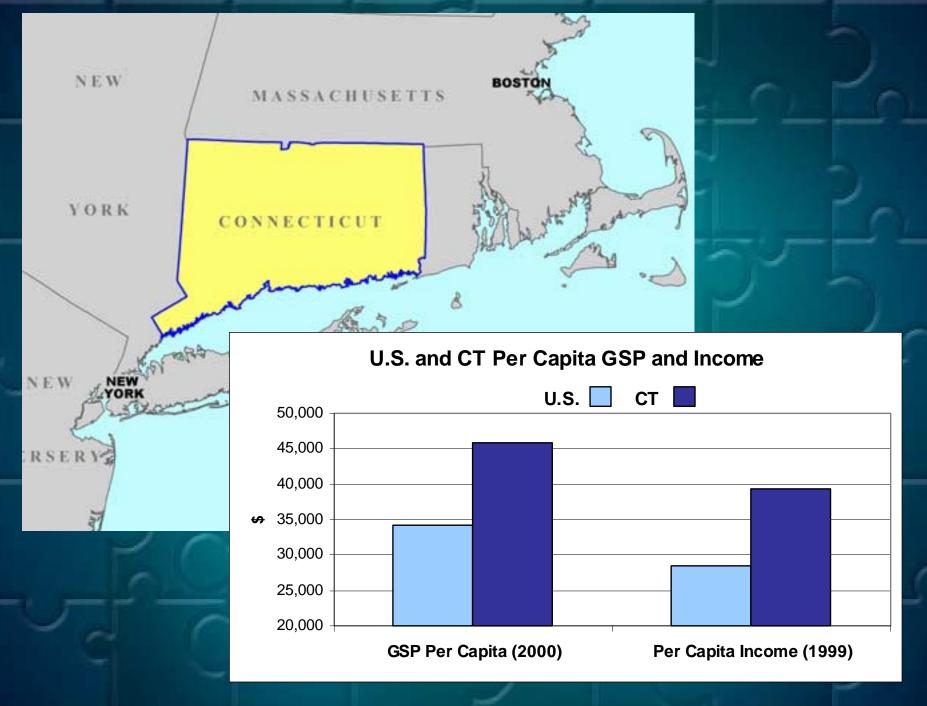
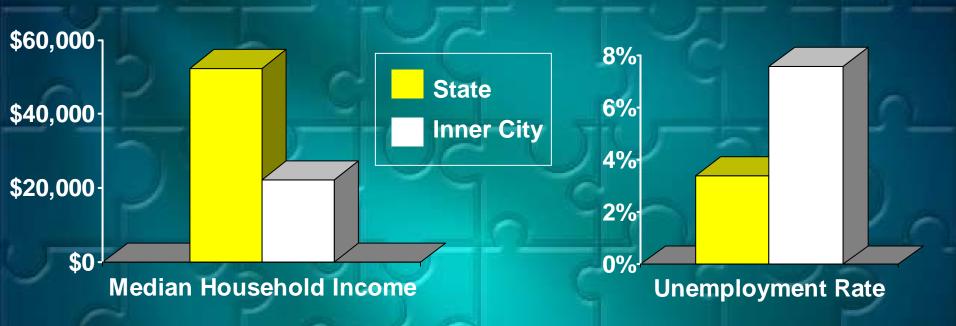


Discussion Topics

- Connecticut vs. Wisconsin
- Cluster History, Leadership & Organization
- Cluster Power
- Cluster Challenges
- Lessons Learned



Connecticut Demographics



City Populations & Poverty Rate

Bridgeport	New Haven	Hartford	Waterbury	New Britain
140,000	124,000	122,000	107,000	72,000
18%	22%	21%	19%	18%



Major Firms

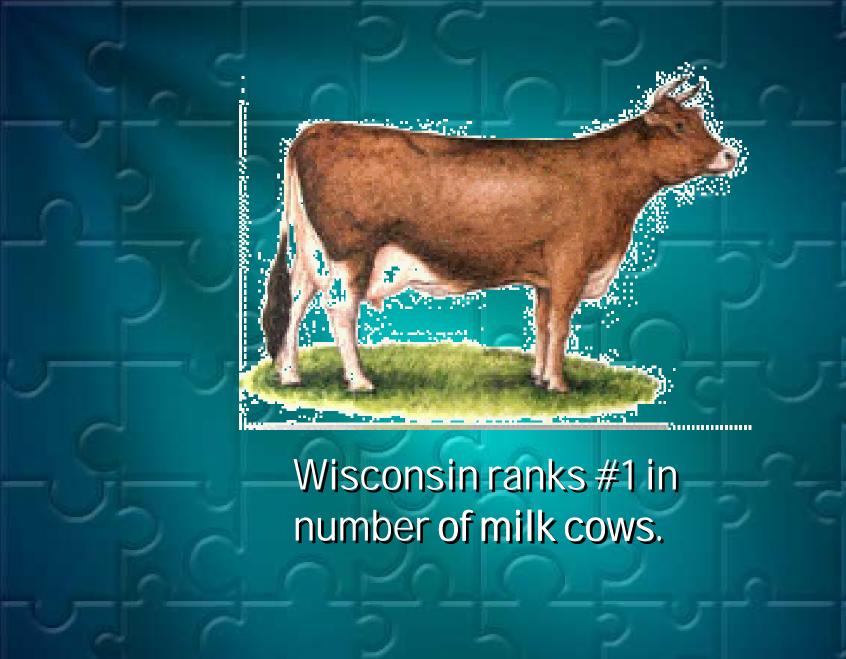
- Aetna, Travelers, Hartford Life Insurance
- Pfizer, Bristol Meyers, Bayer, Boehringer Ingelheim
- Gartner Group
- General Electric
- Gerber Scientific
- International Paper
- NASDAQ

- Pitney Bowes
- Playtex
- Priceline.com
- United Technologies Corp.
- UST
- World Wrestling Entertainment, Inc.
- Yale, UConn, 45 colleges



Population

- > Total Population
 - CT = 3.4 million
 - WI = 5.4 million
- > People/Sq. Mile
 - CT = 702.9
 - WI = 98.9

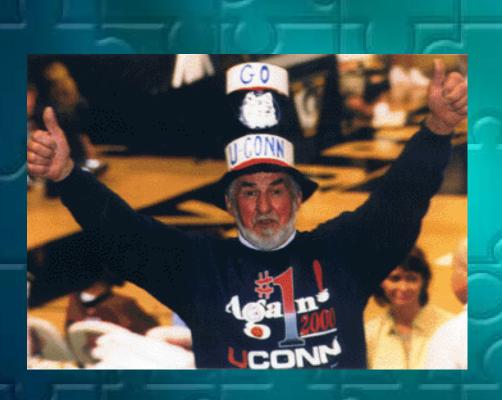


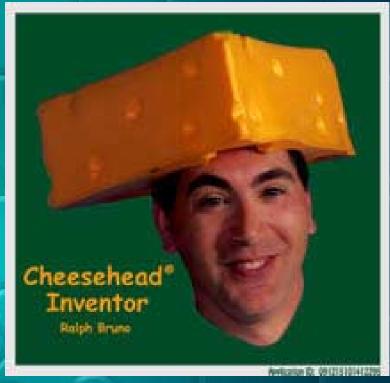




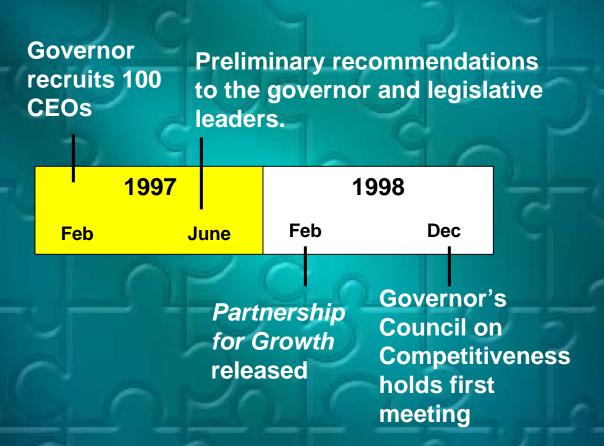


Sports Fans

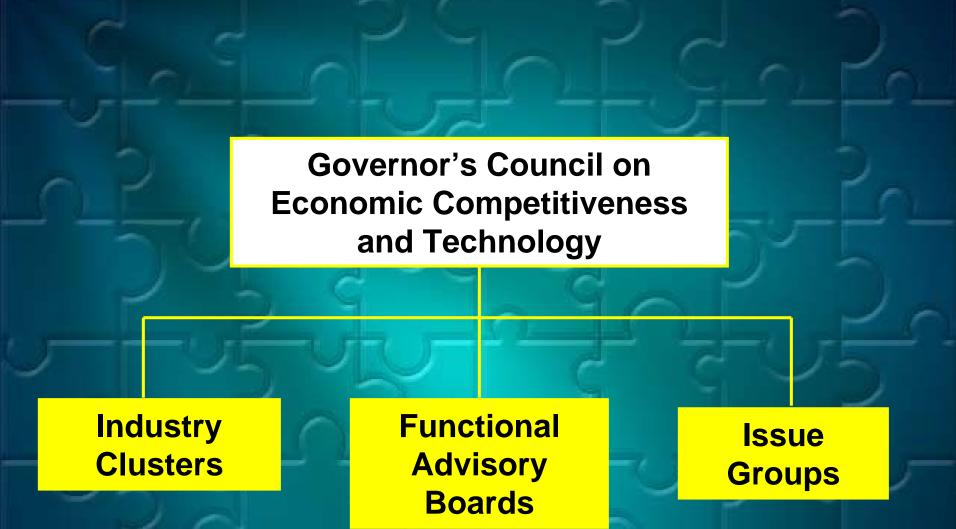




Early Cluster Timeline







Connecticut's Principal Clusters

BioScience & Medical Devices Insurance

Aerospace

Plastics

IT/Software

Metal Manufacturing

Maritime

Tourism & Entertainment

Agriculture

BioScience Cluster

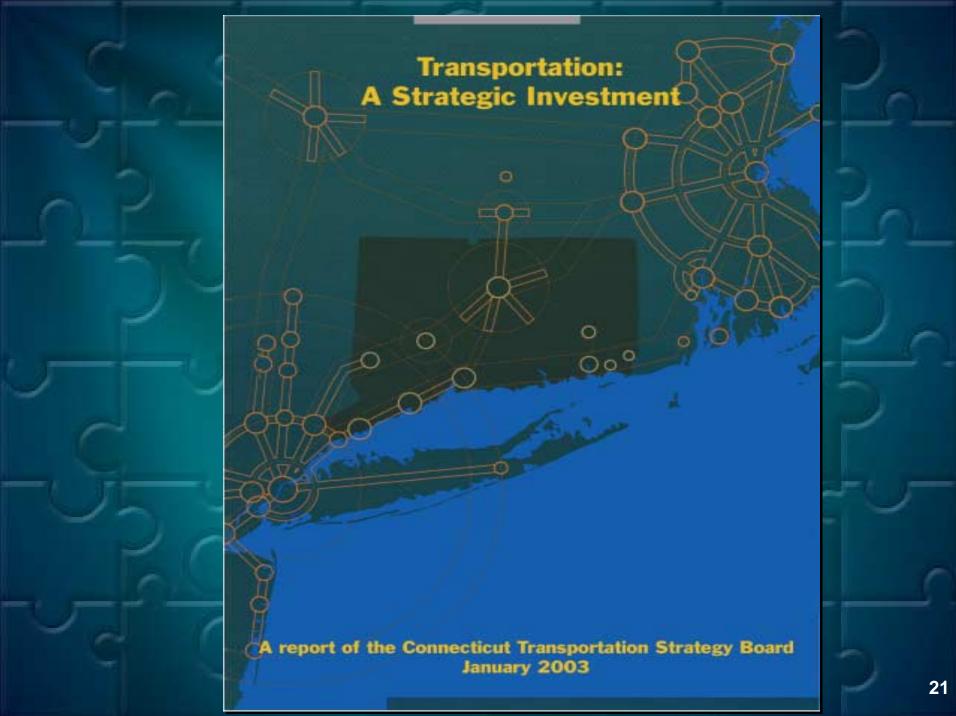
- 5 major pharmaceutical companies, 24 biotech companies
- Yale Medical School, UConn Health Center
- R&D legislation
- Laboratory space
- BioBus
- State Office of BioScience
- Growth of R&D...and...employment

Aerospace Components Manufacturers' Cluster (ACM)

- Began with 6 firms, now 46
- Employs 3,600; combined sales \$750 million
- "Lean Manufacturing," Shingijutso Group
- Consolidated purchasing
- Joint international marketing
- Curriculum in Community Colleges

Transportation...Global Player

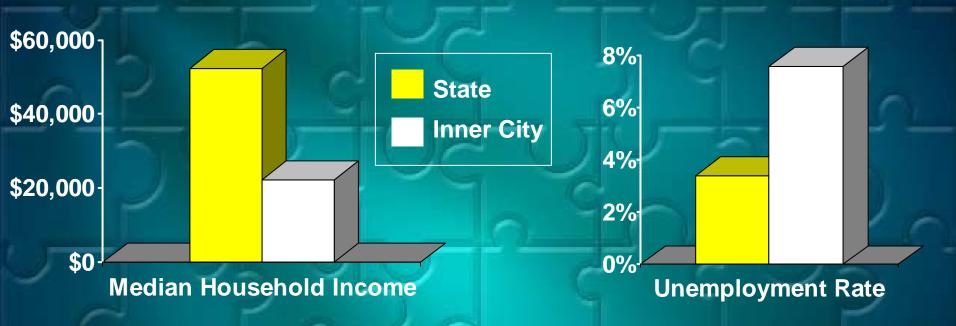
- > Bradley International Airport
 - Critical asset...not "world class"
 - Schiphol report & Governor's Council Advisory Board
 - Governance changes
- > Transportation Strategy Board



Connecticut Inner City Business Strategy

- Bridgeport
- Hartford
- New Britain
- New Haven
- Waterbury

Connecticut Demographics



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Connecticut's Inner City Business Strategy Objectives

 Increase the income, wealth, and job opportunities for inner-city residents

 Change perceptions/attitudes of business investors and urban residents

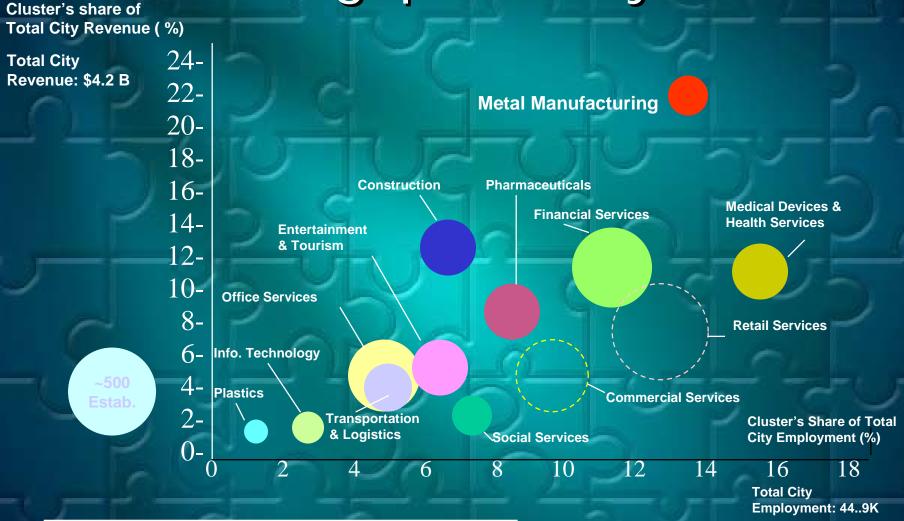
Result Targets

Competitive Urban Industries	Competitive Cities	Competitive Residents
Goal	Goal	Goal
Create a base of	Create business	Prepare
strong growing	environment that	residents to take
businesses	facilitates growth	advantage of new
		economic
700		opportunities

ICIC Result Examples

- Bridgeport Metals Cluster
- Hartford Enterprise Partnership
- New Haven Arts, Entertainment & Tourism Cluster
- Connecticut Inner City 10
- NFTE CT entrepreneurial training for 1,850 inner-city students

Bridgeport's Key Clusters



Harvard Cluster Mapping Project & ICIC

Four key questions drive the selection of priority clusters

engines?

Key metrics:

- Revenues
- Employment

Which offer opportunity for inner-city business growth?

Which have growth potential?

Which are economic

- Growth
- Gaps
- Development Projects

Which offer jobs that match inner-city skills?

- Skill base
- Job Requirements

Which derive competitive advantages from inner-city location?

- Inner City Revenues
- Inner City Employment
- Competitive Advantages/ Disadvantages

BRIDGEPORT METALS CLUSTER

Lean Manufacturing

Quantity	Activity
15	Companies engaged
13	Lean Assessments performed
33	Kaizen Events planned, executed
20+	Lean Awareness Sessions delivered
4	Leadership Workshops delivered
15	Full Classroom Days (Experts)
12+	Expert Candidate Projects supported
18	Expert Candidates supported
300+	Individuals exposed to Lean Concepts

Selected Lean Manufacturing Outcomes:

Co. A Reduced travel distance for product by 40% Reduced space needs for product by 20% Work in process has been reduced by 25%

Co. B

Reduced floor space by 25%

Re-aligned shipping depart, now ships 3 hours early

Co. C Space requirements for plating reduced by 25% Reduced set-up time by 50% on LNJ Presses

Co. D Output of the Test Bay has been increased by 25% Space requirements reduced by 40%

Co. E Work in process has been reduced by 50% Identified 40% waste in quotation /order entry process

ICIC Result Examples

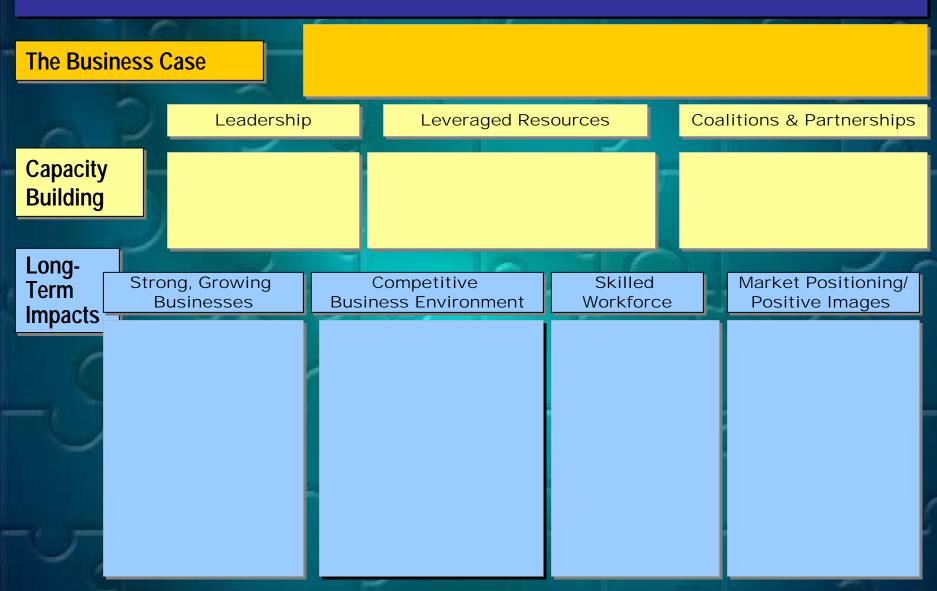
- Bridgeport Metals Cluster
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- Connecticut Inner City 10
- NFTE CT entrepreneurial training for 1,850 inner-city students

\$\$\$ Investment: 1997-2002

- > DECD
 - \$22 million
- > Private sector/other support
 - \$100 million

"Scorecards" Evaluating Results & Progress

Cluster Scorecard



Aerospace Components Manufacturers (ACM)

The Business Case

- •Loss of world wide market share by OEM's, the principles who drive the market
- •Worldwide economic downturn of gas turbine industry (flight propulsion/electric power generation)
- •Airline imposed price pressures causing customers to source parts from low labor costs countries
- Captive suppliers with pressures of selective OEM's
- •Difficulty for small/medium sized businesses to negotiate to deal with market issues on their own

Capacity Building

Leadership

- •46 CEO's from companies employing over 3,600 workers
- •\$750 Million Sales Volume

Leveraged Resources

- •DECD: \$769,000
- •Industry cash and in-kind: \$2,300,000
- •Public funds: \$141,166

Coalitions & Partnerships

- ACM Cluster
- •DECD, DOL, OWC
- •Capital Community College
- Asnuntuck Community College
- •Dept. of Commerce (State, Regional Offices)

Long-Term Impact

Strong, Growing Businesses

- 20%-30% productivity improvements with on-time delivery increasing to 96%
- Created collective economies o scale for lowering costs of supplies to ACM companies
- Captured new international business and returned USA business to CT that was being sourced elsewhere
- Strengthened CT aerospace components mfg. industry base for surviving current recession
- Collected/shared market intelligence among ACM membe
- Risk sharing and reduced costs fo marketing, processing and human resource development
- Built working relationships with Shingijtsu and world-class mfg.

Competitive Business Environment

- Capital and Asnuntuck
 Community Colleges in
 developing specialized
 capabilities for advanced
 manufacturers
- Adopting and adapting lean manufacturing practices throughout CT's small/medium size businesses
- Provided guidance to ConnStep and NIST on manufacturers' needs, resulting in substantially more resources directed toward lean manufacturing
- Provided guidance and direction to CT voc tech apprenticeship programs, e.g. acquired & began using NEM curriculum certification standards

Skilled Workforce

- Delivered 18,000 hours of skill-up incumbent worker training
- 238 Lean manufacturing workshops and/or shop floor events conducted (2,368 company employees involved totaling 26,981 manhrs. of shop process redesign)
- Designed new, advanced curriculum and presented it to incumbent workers at numerous ACM co. sites (89 courses presented, 956 participants, 18,455 man-hrs of classroom instruction)

Market Positioning/ Positive Image

- Created new world-wide identity
- Teleconference with Dept. of Commerce European Aerospace specialist to further ACM market penetration

7/15

Lessons Learned (Just a few of many!)

- Business leadership
- Strong public sector support political, \$\$, staff
- High impact, practical projects vs. intergalactic strategies
- Capable implementing partners
- Compelling communications strategy

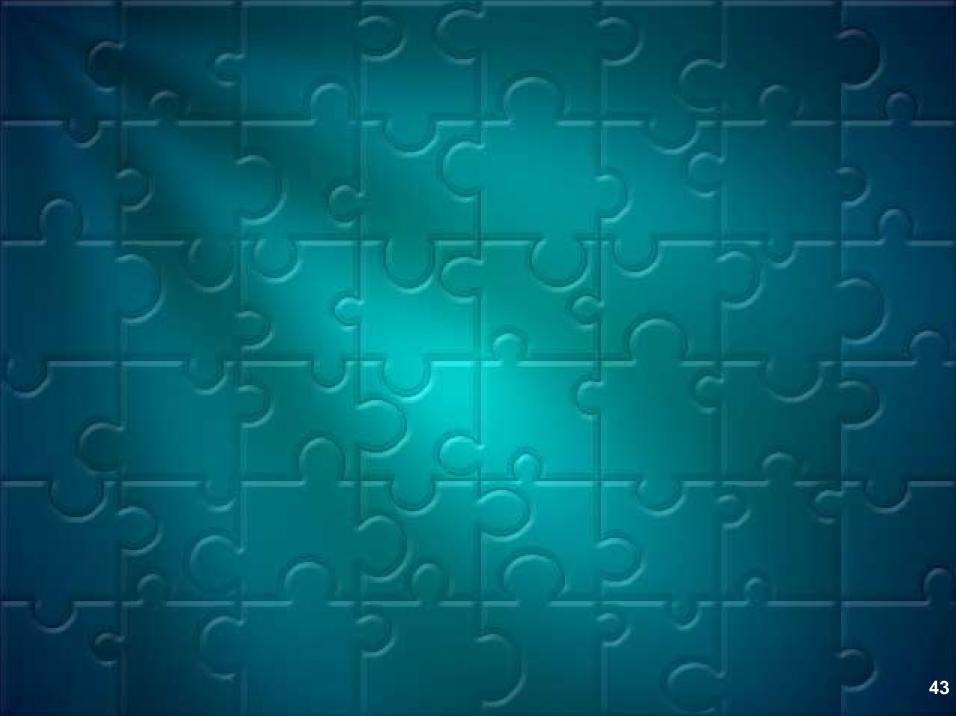


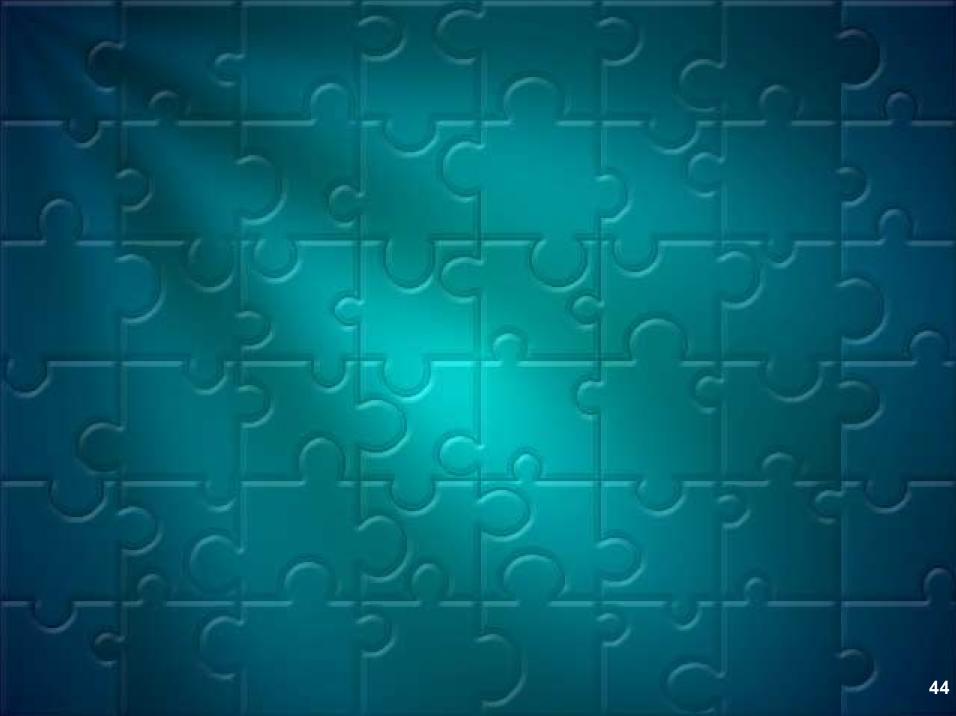












Metal Manufacturing Establishments Per Square Mile

